

REMARKS/ARGUMENTS

As explained more fully below, Applicant has amended independent Claims 1, 26, 34, and 41, and the claims depending therefrom, to more clearly define the claimed invention. Applicant requests reconsideration of Claims 1, 5, 26-27, 29, 33-34, 36, 37, and 39-41 in view of the Amendments and Remarks set forth herein.

The Rejections Under 35 USC § 112 First Paragraph Are Moot

The Office Action rejects Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 under 35 U.S.C. § 112, first paragraph, asserting that the claims are not commensurate with an enabling disclosure nor do they enable one of ordinary skill in the art to make or practice the invention. In support of the rejection under 35 U.S.C. § 112, first paragraph, the Office Action asserts that the Figures/Tables do not recite the specific particle size range for the coarse and fine aggregate bottom ash used. The Office Action further notes that there is overlap between the particle size ranges recited for the coarse portion and the fine portion of the bottom ash.

Applicant disagrees with the remarks in the Office Action for the reasons set forth in the Amendment dated January 12, 2007. Nonetheless, in an effort to progress the prosecution of the present application and narrow the issues for appeal, Applicant has amended the claims to cancel the claims reciting the strength of the resulting structural products. Applicant expressly reserves the right to submit new claims in the present application or a continuation application directed to the subject matter of the canceled claims. Based upon these amendments, Applicant submits that the rejections under 35 U.S.C. § 112, first paragraph, relative to the high compressive strengths recited in the claims is moot.

Regarding the overlap between the particle sizes of the first and second portions, Applicant has already directed the Examiner's attention to the specification, which clearly explains that in preparing the "primarily" coarse portion "not all particles having a particle size below about 5.9 mil (150 μ m) are removed by screening." (See page 11, ll. 20-21). Applicant has also amended independent Claim 1, 26, 34, and 41 to clarify that the bottom ash comprises a

“first portion” and a “second portion” that are mixed together. Moreover, consistent with the specification and the Figures/Tables, the claims recite that the particle size of the “effective amount of bottom ash” is less than .75 inches and includes a particle distribution wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches. Applicant submits that these amendments obviate any concerns expressed by the Examiner as to the overlap between the first and second portions. In view of the present and previous amendments, Applicant respectfully requests withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

The Rejections under 35 USC §112 Second Paragraph Should Be Withdrawn

The Office Action rejects Claims 1, 3-5, 8-14, 17, 18, 20-22, 25-27, 29, 32-34, 36, 37, and 39-46 under 35 USC §112, second paragraph, as failing to set forth the subject matter the Applicant regards as the invention. Applicant has amended the Claims 1, 26, 34, and 41 to delete the terms “an effective amount” for the bottom ash and cement, as suggested in the Office Action. Regarding the assertion that the use of the term “effective amount” for water is indefinite, Applicant has set forth in previous Amendments why Applicant believes that this term is not indefinite, as recited in the claims. Nonetheless, Applicant has amended Claims 1 and 26 to delete the term “an effective amount” in order to progress the prosecution of the present application and narrow the issues for appeal. Applicant expressly reserves the right to submit new claims in the present application or a continuation application directed to the deleted subject matter. Based upon these amendments, Applicant submits that the rejections under 35 USC §112, second paragraph, should be withdrawn.

The Objection to the Specification or Original Disclosure Should Be Withdrawn

The Office Action objects to the specification or original disclosure, asserting that the particle sizes for what was used for the coarse and fine portions of the bottom ash in the examples provided in Figures 7A, 7B, 8A and 9A to obtain the compressive strengths are not disclosed. Applicant disagrees. As previously explained, Figure 7C provides a sieve analysis (*i.e.*, particle size analysis) for the fine and coarse portions of the bottom ash in each of the seven

mixtures identified in Figure 7A and 7B; Figure 8B provides a sieve analysis for the fine and coarse portions of the bottom ash in the mixture identified in Figure 8A; and Figure 9B provides a sieve analysis for the fine and coarse portions of the bottom ash in the mixture identified in Figure 9A. Applicant respectfully declines the Examiner's suggestion to submit a substitute specification.

Notwithstanding Applicant's disagreement as to the propriety of the objection in the Office Action, in an effort to progress the prosecution of the present application and narrow the issues for appeal, Applicant has amended the claims to cancel the claims reciting the strength of the resulting structural products. Applicant expressly reserves the right to submit new claims in the present application or a continuation application directed to the subject matter of the canceled claims. Based upon these amendments, Applicant submits that the objection to the specification and original disclosure is moot.

The New Matter Rejection is Overcome

The Office Action asserts that the recitation in the claims "approximately 1.125 gallons of water per cubic foot of cementitious composition to approximately 1.96 gallons per cubic foot of cementitious composition" is new matter. Applicant respectfully disagrees. Nonetheless, in an effort to progress the prosecution of the present application and narrow the issues for appeal, Applicant has amended the claims to delete the subject limitation. Applicant expressly reserves the right to submit new claims in the present application or a continuation application directed to the deleted subject matter. Based upon these amendments, Applicant submits that the new matter rejection should be withdrawn.

The Rejections Under § 102 and § 103 Directed to the Claims Are Overcome

The Office Action rejects Claims 1, 3-14, 17, 18, 20-22, 24-27, 29, 32-34, 36, 37, and 39-46 under 35 U.S.C. § 102 (a) and (b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 (a) as obvious over U.S. Patent No. 5,849,075 to Hopkins et al., U.S. Patent No. 5,772,751 to Nisnevich et al., U.S. Patent No. 6,528,547 B2 to Shulman, U.S. Patent No. 4,050,950 to Brewer et al., U.S. Patent No. 4,050,261 to Brewer et al., and/or US Patent No.

3,961,973 to Jones. Applicant respectfully submits that the cited references do not teach or suggest, either singularly or in combination, the invention as claimed.

Specifically, independent Claims 1, 26, 34, and 41 recite a cementitious composition comprising a bottom ash and cement wherein the bottom ash comprises a first portion and a second portion, the second portion comprising a particle size between .75 inches to .003 inches and the first portion comprising a particle size of less than about .006 inches, the first and second portions being mixed together to provide a particle distribution for the bottom ash wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches.

In contrast, the Hopkins '075 patent, Nisnevich '751 patent, Shulman '547 patent, each disclose combining cement, bottom ash and other materials, such as silica fumes, fly ash, expanded Polystyrene, blast-furnace slag and other adjuvants and fillers. However, none of the cited references, either alone or in combination, teach or suggest a cementitious composition, a cementitious product, or a method of manufacturing a cementitious product, comprising bottom ash and cement wherein the bottom ash comprises a first portion and a second portion, the second portion comprising a particle size between .75 inches to .003 inches and the first portion comprising a particle size of less than about .006 inches, the first and second portions being mixed together to provide a particle distribution for the bottom ash wherein approximately fifty percent of the bottom ash has a particle size less than about .012 inches.

Notably, the Office Action does not cite specifically where in any of the cited references, either alone or in combination, such references teach or suggest either the particle distribution ranges of the first and second portions, the mixing of the first and second portions together, and/or the resulting particle distribution of the bottom ash as a whole. The Office Action merely asserts that the "examiner maintains that the prior art does teach applicant's particle size ranges and thus overlaps it." As explained in MPEP Section 2144.05(I), the prior art must actually teach the claimed ranges. Moreover, Applicant further notes that the Office Action fails to even address the recitation in independent Claims 1, 26, 34, and 41 of a specific particle distribution for the bottom ash as a whole, which limitation is separate from and in addition to, the specific particle size distributions for the first and second portions. The Office Actions further fails to

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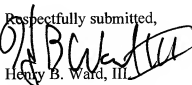
address the recitation in independent Claims 1, 26, 34, and 41 that the first and second portions are mixed together.

Applicant submits that the recited particle distribution ranges of the first and second portions and the mixing of the first and second portions to obtain a specific particle distribution, none of which are taught or suggested by the prior art, are important as they enable the creation of a more cost-efficient cementitious composition that is lightweight and capable of forming a structural product having high compressive strength. Accordingly, it is respectfully submitted that independent Claims 1, 26, 34, and 41, as amended, and the claims depending therefrom, include recitations that patentably distinguish the claimed invention over the cited references and that the rejections directed to these claims be withdrawn.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 13-4365.

Respectfully submitted,



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